

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A cooling apparatus for a system which generates heat therein, said apparatus comprising:

a chamber for receiving at least a portion of said heat, by at least one of conduction and forced air, said chamber containing a refrigerant therein;

a condenser for receiving said refrigerant having been heated in said chamber, said refrigerant being pressurized and cooled in said condenser[,]; and

at least one coil coupled to said condenser and leading to a region to be cooled, said at least one coil having a first portion coupled to said condenser, a second portion downstream from said first portion, and a third portion downstream of said second portion,

wherein said second downstream portion ~~containing~~ contains an orifice for free expansion of the refrigerant to cause cooling of said region to be cooled,

wherein said third downstream portion ~~leading~~ leads from the region to be cooled back to said chamber, and

wherein said at least a portion of said heat generated within the system is recirculated to cool said region to be cooled.

2. (Previously Presented) The cooling apparatus of claim 1, wherein said refrigerant comprises any of ammonia and water, a solution of lithium bromide and water, and a solution of lithium chloride and water.

3. (Previously Presented) The cooling apparatus of claim 1, wherein a source of heat comprises heat from a component within said system that becomes heated when said system is powered.

4. (Previously Presented) The cooling apparatus of claim 1, wherein a structure in said region to be cooled comprises at least one of a fan and a fan motor, at least one computer chip, computer circuitry and a circuit board, said structure being electrically powered.

5. (Previously Presented) The cooling apparatus of claim 1, wherein a structure in said

region to be cooled comprises a computer server unit.

6. (Previously Presented) The cooling apparatus of claim 1, further comprising:
an auxiliary electric heater coil being positioned adjacent to said chamber receiving said heat.
7. (Previously Presented) The cooling apparatus of claim 6, wherein said auxiliary electric heater coil starts a refrigeration cycle.
8. (Previously Presented) The cooling apparatus of claim 6, wherein said auxiliary electric heater coil remains actuated during operation of a structure producing heat to augment said heat being provided to said chamber.
9. (Previously Presented) The cooling apparatus of claim 1, wherein said second downstream portion of said at least one coil is directly contacted with a structure to be cooled.
10. (Previously Presented) The cooling apparatus of claim 1, further comprising a solid conduction member,
wherein said second downstream portion of said at least one coil is indirectly contacted with a structure to be cooled, via said solid conduction member.
11. (Currently Amended) A cooling apparatus for a system which generates heat therein, comprising:
a chamber for receiving heat generated within the system, and containing a refrigerant[,]; and
a condenser located at a distance from a region of a device to be cooled,
wherein said condenser receiving said refrigerant having been heated from said chamber, said refrigerant being pressurized due to heating and being cooled and liquefied in said condenser,
wherein at least one coil leading out from said condenser to a region to be cooled,
wherein one end of said one or more coils containing an orifice for free expansion of said refrigerant to cause cooling of said region to be cooled.

wherein said at least one coil leading from said region to be cooled back to said chamber, and

wherein said at least a portion of said heat generated within the system is recirculated to cool said region to be cooled.

12. (Previously Presented) The cooling apparatus of claim 11, wherein said refrigerant comprises any of ammonia and water, a solution of lithium bromide and water, and a solution of lithium chloride and water.

13. (Previously Presented) The cooling apparatus of claim 11, wherein said heat is generated by a component within said system that becomes heated when said system is powered.

14. (Previously Presented) The cooling apparatus of claim 11, wherein a structure in said region to be cooled comprises at least one of a fan and a fan motor, a computer chip, computer circuitry and a circuit board, said structure being electrically powered.

15. (Previously Presented) The cooling apparatus of claim 11, further comprising:
an auxiliary electric heater coil positioned adjacent to said chamber receiving said heat.

16. (Previously Presented) The cooling apparatus of claim 15, wherein said auxiliary electric heater coil starts a refrigeration cycle.

17. (Previously Presented) The cooling apparatus of claim 15, wherein said auxiliary electric heater coil remains actuated while said heat is generated in said system to augment said heat being provided to said chamber.

18. (Previously Presented) The cooling apparatus of claim 11, wherein a downstream portion of said at least one coil is directly contacted with a structure to be cooled.

19. (Previously Presented) The cooling apparatus of claim 11, further comprising a solid

conduction member,

wherein a downstream portion of said at least one coil is indirectly contacted with a structure to be cooled, via said solid conduction member.

20. (Currently Amended) A method for cooling a portion of a system which generates heat therein, comprising:

receiving at least a portion of said heat generated within the system, in a heating chamber, said heating chamber containing a refrigerant therein;

receiving, by a condenser, said refrigerant having been heated in said chamber, said refrigerant being pressurized and cooled in said condenser;

coupling at least one coil to said condenser and leading said at least one coil to a region to be cooled, said at least one coil having a first portion coupled to said condenser, a second portion downstream from said first portion, and a third portion downstream of said second portion;

providing said second downstream portion with an orifice, to freely expand said refrigerant to cause cooling of said region to be cooled; and

leading said third downstream portion from the region to be cooled back to said chamber, and

wherein said at least a portion of said heat generated within the system is recirculated to cool said region to be cooled.

21. (Previously Presented) The method of claim 20, wherein said refrigerant comprises any of ammonia and water, a solution of LiBr and water, and lithium chloride and water.

22. (Currently Amended) The method of claim 20, further comprising:

providing a source of heat, said source of heat comprising a component within said apparatus that ~~become~~ becomes heated when said apparatus is powered.

23. (Previously Presented) The method of claim 20, wherein a structure in said region to be cooled comprises at least one of a fan and a fan motor, a computer chip, computer circuitry and a circuit board, said structure being electrically powered.

24. (Previously Presented) The method of claim 20, wherein a structure in said region to be cooled comprises a computer server unit.
25. (Previously Presented) The method of claim 20, further comprising:
positioning an auxiliary electric heater coil adjacent to said chamber receiving said heat.
26. (Previously Presented) The method of claim 25, wherein said auxiliary electric heater coil starts a refrigeration cycle.
27. (Previously Presented) The method of claim 25, further comprising:
maintaining said auxiliary electric heater coil in an actuated state during operation of said apparatus to augment said heat being provided to said chamber.
28. (Previously Presented) The method of claim 20, wherein said second downstream portion of said at least one coil is directly contacted with a structure to be cooled.
29. (Previously Presented) The method of claim 20, further comprising:
providing a solid conductive member, wherein said second downstream portion of said at least one coil is indirectly contacted with a structure to be cooled, via said solid conductive member.
30. (Currently Amended) A method of cooling a portion of a system, comprising:
generating waste heat by said system; and
using at least a portion of the waste heat to cool a portion of the system producing the waste heat.
31. (Previously Presented) The method of claim 30, wherein said at least a portion of the heat is recycled, and is redirected to a portion of the system that requires cooling.
32. (New) A cooling apparatus for a system which generates heat therein,
said apparatus comprising:

a chamber for receiving at least a portion of said heat, by at least one of conduction and forced air, said chamber containing a refrigerant therein;

a condenser for receiving said refrigerant having been heated in said chamber, said refrigerant being pressurized and cooled in said condenses; and

at least one coil coupled to said condenser and leading to a region to be cooled, said at least one coil having a first portion coupled to said condenser, a second portion downstream from said first portion, and a third portion downstream of said second portion,

wherein said second downstream portion contains an orifice for free expansion of the refrigerant to cause cooling of said region to be cooled,

wherein said third downstream portion leads from the region to be cooled back to said chamber, and

wherein a structure in said region to be cooled comprises a server unit.